

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
3 June 2004 (03.06.2004)

PCT

(10) International Publication Number  
WO 2004/046076 A3

(51) International Patent Classification<sup>7</sup>: B01J 37/02, 37/08, 35/10, C07C 29/19, 67/303, 51/36, 5/10, C08F 8/04

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(21) International Application Number:  
PCT/EP2003/012885

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(22) International Filing Date:  
18 November 2003 (18.11.2003)

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language:  
English

(84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(26) Publication Language:  
English

Published:  
— with international search report

(30) Priority Data:  
0227086.6 20 November 2002 (20.11.2002) GB

(88) Date of publication of the international search report:  
10 September 2004

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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WO 2004/046076 A3

(54) Title: HYDROGENATION CATALYST, PREPARATION THEREOF AND HYDROGENATION PROCESSES USING THIS CATALYST

(57) Abstract: The present invention is directed to a process for hydrogenating one or more organic compounds especially unsaturated organic compounds by bringing the compound into contact with a hydrogen-containing gas in the presence of a catalyst, which comprises one or more catalytically active metals applied to a porous catalyst support. The one or more catalytically active metals having been derived via a decomposed organic complex of the metal on the support, in particular amine complexes of the metal. The decomposed complex may be treated with hydrogen to activate the catalyst before use as a hydrogenation catalyst.

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/EP 03/12885

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>	
IPC 7	B01J37/02
	B01J37/08
	B01J35/10
C07C51/36	C07C5/10
	C08F8/04

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B01J C10G C07C C08F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, COMPENDEX, PAJ

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 761 428 A (SUGIER ANDRÉ AND MIQUEL JEAN) 25 September 1973 (1973-09-25)  the whole document	1, 2, 6, 8, 9, 11, 13-22, 25, 28, 29, 39, 52
X	US 2 889 287 A (SCOTT JR JOHN W) 2 June 1959 (1959-06-02)  the whole document	1, 2, 6, 8, 9, 11, 13-21, 23-25, 28, 29, 39, 52

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

\* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the International filing date
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- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the International filing date but later than the priority date claimed

- \*T\* later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed Invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed Invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the International search

9 June 2004

Date of mailing of the International search report

16. 06. 2004

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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/EP 03/12885

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
  
3.  Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1.  As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
  
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3.  As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-34, 39, 43, 44, 52

Process for hydrogenation of one or more organic compounds and process for manufacture of a hydrogenation catalyst  
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2. claims: 35-37

Hydrogenation catalyst  
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## INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/12885

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	ABOUL-GHEIT AHMED KADRY: "ROLE OF ADDITIVES IN THE IMPREGNATION OF PLATINUM AND RUTHENIUM ON ALUMINA CATALYSTS" JOURNAL OF CHEMICAL TECHNOLOGY AND BIOTECHNOLOGY, vol. 29, no. 8, August 1979 (1979-08), pages 480-486, XP008028876 OXFORD, GB the whole document	1, 2, 6, 8-22, 30-34, 52
X	US 6 284 917 B1 (BREITSCHEIDEL BORIS ET AL) 4 September 2001 (2001-09-04) the whole document	1-8, 39, 52
X	WO 98/47618 A (EXXON RESEARCH ENGINEERING CO) 29 October 1998 (1998-10-29)  the whole document	9, 11, 13, 14, 23-25, 28, 29, 39, 52
X	US 5 319 129 A (GUSTAFSON BRUCE L ET AL) 7 June 1994 (1994-06-07) the whole document	1-8, 35-37, 52
X	US 4 431 574 A (VASUDEVAN STRINIVASAN ET AL) 14 February 1984 (1984-02-14) tables I,II	35-37
X	US 4 073 750 A (YATES DAVID J C ET AL) 14 February 1978 (1978-02-14) the whole document	35-37

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International Application No

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International Application No

PCT/EP 03/12885

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